



INTRODUCTION

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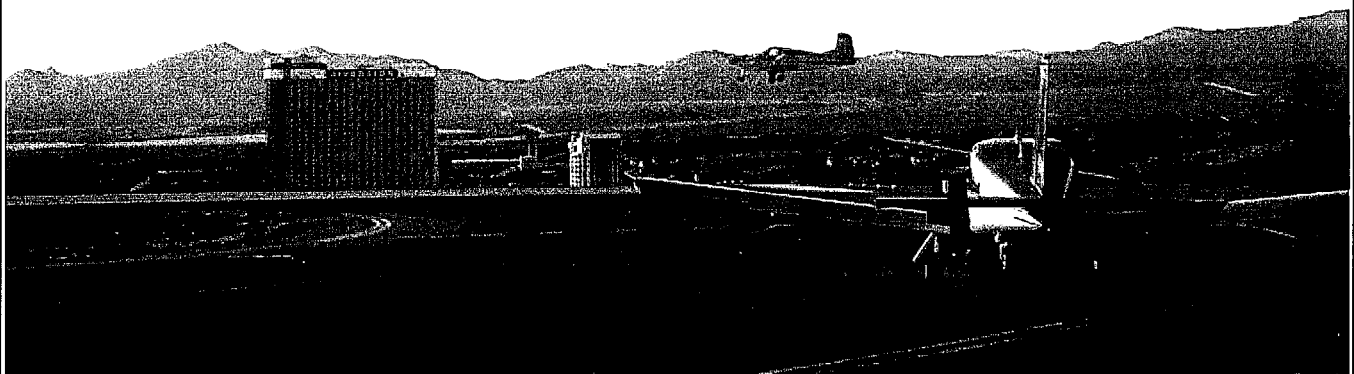
This Master Plan for the Laughlin/Bullhead International Airport was undertaken by the Mohave County Airport Authority with the assistance of grants-in-aid from the Federal Aviation Administration (FAA) and the Aeronautics Division of the Arizona Department of Transportation (ADOT). The Airport Master Plan is a comprehensive study providing an updated analysis of airport needs, defining its role within the regional airport system, and evaluating alternatives with the purpose of updating the direction for the future development of this facility.

The Master Plan replaces the previous master plan which was completed in December, 1994. It is typical for airport sponsors to periodically update their airport's master plan to ensure that the airport can continue to adapt in providing adequate facilities to meet demands placed upon them.

The commitment to conduct this Master Plan is evidence that Mohave County Airport Authority officials recognize both the challenges inherent in providing for the future aviation needs as well as the importance of Laughlin/Bullhead International Airport to Bullhead City, Laughlin, and the surrounding tri-state region. The cost of maintaining a viable airport is an investment which can yield impressive benefits to a community. By maintaining a sound, flexible master plan, the Laughlin/Bullhead International Airport will continue to be an effective transportation facility and economic asset.

STUDY OBJECTIVES AND APPROACH

The primary objective of this Master Plan Update is to re-examine and update the long-term development



program for the airport to ensure that it will continue to yield a safe, efficient, economical, and environmentally acceptable air transportation facility. The finalized document includes a set of Airport Layout Plans which depicts the proposed development at the airport over a long range planning period.

The Master Plan provides a continuous planning process through a phased outline of the proposed improvements needed to meet the ultimate aviation needs of the community. The continuous planning process benefits responsible officials by giving advanced notice of future airport funding needs so that appropriate steps can be taken to assure that adequate funds are budgeted or planned. This study also examines the economic benefits provided by the airport to the surrounding community. The economic benefit analysis presents a dollar amount which will represent the airport's actual value added to the community.

To accomplish the objectives of this study, the Airport Master Plan supplies the following information:

- **Inventory of Existing Conditions** - Assemble and organize relevant information and data for Bullhead City, Laughlin, and the surrounding area.
- **Forecasts** - Develop projections of future aviation activity, by quantity and type.
- **Facility Requirements** - Estimate the current and future levels of airfield capacity and delay. Identify the facility requirements needed to meet projected demand for existing, short, intermediate, and long term time frames.
- **Airport Alternatives** - Evaluate concepts of the various alternatives for airport development as determined by current and future facility requirements.
- **Airport Layout Plan** - Refine the recommended airport development concept into the airport's final plan for development.
- **Financial Plan** - Prepare a capital improvement program to assist in the implementation of the recommended development plan. Establish development priorities, schedule proposed development items and estimate development costs, as well as a determination of the airport's future cash flow.
- **Environmental Overview** - Perform a preliminary environmental overview to identify potential environmental concerns that will need to be addressed for the various improvements proposed.
- **Economic Benefit Analysis** - Distribute and analyze surveys directed to airport uses, tenants, and employers. Determine the airport's economic input to the community.

In addition to the Airport Authority, FAA, ADOT, and the consultant team involved in the formulation of this update, the Airport Authority also identified a number of community planners, federal and state agency personnel, and representatives of the

aviation community to review the various aspects of the plan as it was developed. This group comprises the planning advisory committee which reviewed working papers on the project and provided input and comment throughout the study to help ensure that a realistic, viable plan developed. To assist the review process, draft working papers were submitted in a workbook format. The final report incorporates all updated information and applicable comments from the working paper process.

AIRPORT ROLE

The federal government has had an important role in the development of airports in the United States. Many of the nation's existing airports were either initially constructed by the federal government or their development and maintenance was partially funded through various federal grant-in-aid programs to local communities. In large measure, the system of airports existing today is due, in part, to the existence of federal policy that promotes the development of civil aviation. As part of its effort maintain a system of airports to meet the needs of civil aviation and promote air commerce, the United States Congress has continually supported a national plan for the development and maintenance of airports.

The current national airport system plan is the National Plan of Integrated Airport Systems (NPIAS). A primary purpose of the NPIAS is to identify the airports that are important to national transportation and includes all

commercial service airports, all reliever airports, and selected general aviation airports. A total of 3,540 airports are identified in the NPIAS of which 3,334 are existing airports and 206 are proposed airports. Because of the importance of Laughlin/Bullhead International Airport to the local community and the national air transportation system, the FAA includes it in the NPIAS.

The NPIAS classifies the Laughlin/Bullhead International Airport (IFP) as a primary commercial service airport. Commercial service airports are defined as airports receiving scheduled passenger service and having 2,500 or more enplaned passengers per year. Primary commercial service airports are those with more than 10,000 annual enplanements and are eligible for federal entitlement funding from the Airport Improvement Program (AIP).

The National Plan of Integrated Airport Systems (NPIAS) defines 544 commercial service airports in the United States. Commercial service airports account for nearly 100 percent of national enplanements and 26 percent of active general aviation aircraft. Approximately 70 percent of the national population lies within 20 miles of these commercial service airports.

An additional classification of the airport is provided to indicate the amount of revenue-generating passengers that may be found in a given metropolitan area served by the airport. The percentage of revenue-producing passengers in a given metropolitan area is referred to as a "hub" and determined

by dividing the number of annual passenger enplanements at the airport into the number of annual enplanements nationwide. This percentage then falls within a predetermined hub classification; large, medium, small, or non-hub. The Laughlin/Bullhead area is classified as a non-hub air passenger market. Non-hub airports enplane up to 0.05 percent of all U.S. passenger enplanements nationwide.

This Master Plan update examines and considers all of the activities currently taking place at Laughlin/Bullhead International Airport and strives to produce refinements that will support all airport users and meet the needs of the community, while at the same time remaining sensitive to environmental and community concerns.

SUMMARY AND RECOMMENDATIONS

The proper planning of a facility of any type must consider the demand that may occur in the future. For Laughlin/Bullhead International Airport, this involved reviewing and updating forecasts to identify the potential future aviation demand. Because of the cyclical nature of the economy, it is virtually impossible to predict with certainty year-to-year fluctuations in activity when looking twenty years into the future.

Recognizing this, it was the intent of the Mohave County Airport Authority to develop a Master Plan that is demand-based as opposed to time-based. As a result reasonable levels of activity

potential derived from the forecasting effort are related to planning horizon levels rather than points in time. These planning horizons were established as activity milestones that will call for consideration of implementing the next step in the master plan program.

By developing the airport to meet the aviation demand levels instead of specific points in time, the airport will serve as a safe and efficient aviation facility which will meet the operational demands of the users while being developed in a cost efficient manner. This program allows the Airport Authority to change specific development in response to unanticipated needs or demand. The forecast planning horizons are summarized in **Table A**.

The Airport Layout Plan set has also been updated to continue to act as a blueprint for everyday use by management, planners, programmers, and designers. These plans were prepared on computer to help ensure their continued use as an everyday working tool for the Airport Authority. The major development items over the planning horizons include the following:

Short Term

- Complete Relocation of General Aviation to West Side
- Construct New Fuel Farm
- Acquire Property for Future Needs
- Construct Heliport
- Construct Remote Hold Room
- Relocate/Expand ARFF
- Install AWOS-3
- Extend Runway 16-34 to 9,000 feet

Intermediate Term

- Provide CAT I Approach to Runway 34
- Construct New Terminal, Circulation, and Parking
- Prepare GA Corporate Hangar Area
- Install High Speed Exits
- Add T-hangar
- Acquire Property for Future Needs
- Add Fuel Storage as Needed

Long Range

- Add T-hangars
- Add General Aviation Apron
- Expand Terminal Building and Parking
- Develop South Access Road
- Add Fuel Storage as Needed
- Expand GA Terminal
- Develop GA Parallel Runway

TABLE A
Planning Horizon Milestone Summary

	1998	Short Term	Intermediate Term	Long Range
Commercial Activity				
Annual Enplanements	30,387	125,000	200,000	350,000
Annual Operations				
Airline	3,608	9,400	11,900	16,700
Other Air Taxi	<u>3,180</u>	<u>4,000</u>	<u>4,800</u>	<u>6,800</u>
Total Commercial Operations	6,788	13,400	16,700	23,500
General Aviation Activity				
Based Aircraft	60	80	100	130
Operations				
Local	14,267	19,000	24,000	31,000
Itinerant	34,350	45,000	56,000	73,000
Total General Aviation Operations	48,617	64,000	80,000	104,000
Military Operations	281	300	300	300
Total Annual Airport Operations	55,686	77,700	97,000	127,800

The implementation of the Master Plan will take a financial commitment of approximately \$74 million dollars over the planning period (**Table B**). Nearly 72 percent of the total costs are eligible for grants-in-aid administered by the Federal Aviation Administration (FAA).

The source for these grants is the Aviation Trust Fund which is a depository for federal aviation taxes such as those from airline tickets, aviation fuel, aircraft registrations, and other aviation-related fees. Eligible projects can receive up to 91.06 percent

funding from the FAA. These funding levels, however, are not guaranteed. The amount of federal funding that will be made available will depend upon the future of the Airport Improvement Program. The Arizona Department of Transportation (ADOT) has programs available to provide 50 percent of the local matching share for FAA grants. ADOT can also fund up to 90 percent on eligible projects where FAA funding is not forthcoming.

The Mohave County Airport Authority will need to utilize its own resources to provide the remaining project costs. In the past, the matching share was provided by the appraised value of land donated for the airport. Future projects will need to utilize airport revenues. The Master Plan recommends redeveloping the original airport site on the east side into commercial and industrial uses. These land leases can assist in the long term support of airport capital improvements.

TABLE B
Development Funding Summary (Millions \$)

Planning Horizons	Total	FAA	AzDOT	MCAA
Short Term	\$21.39	\$17.28	\$1.78	\$2.33
Intermediate Term	28.99	18.28	3.26	7.45
Long Range	23.77	17.86	2.03	3.87
TOTAL	\$74.15	\$53.42	\$7.07	\$13.66

Guidelines and worksheets are included at the end of **Chapter Six** to aid airport management in the continuous evaluation of airport activity in order to program airport development in accordance with demand. Space on the worksheets is provided to literally update priorities year-by-year.

This Master Plan is evidence that the Mohave County Airport Authority is committed to providing high quality air transportation services for the area. The Airport Authority recognizes the importance of Laughlin/Bullhead International Airport to the community and the region as well as the associated challenges inherent in providing for future aviation needs. By maintaining

a sound, flexible Master Plan, the airport will continue to be a major economic asset to the citizens of the tri-state surrounding region.

LAUGHLIN/BULLHEAD INTERNATIONAL AIRPORT'S ECONOMIC IMPACT

In conjunction with the Master Plan, the economic impact of Laughlin/Bullhead International Airport was also evaluated. This study is included as **Appendix D**. The study measured economic benefits of the airport through four indicators:

Revenues or output measure the total flow of dollars from aviation-related activity and include total sales of business firms and budgets of administration agencies.

Earnings or payroll represent the dollar value of payments received by workers (as wages) and business proprietors (as income) who create the goods and services that are sold to produce revenues.

Employment is a measure of the number of jobs required to create the gross revenues and value added.

The economic benefits of Laughlin/Bullhead International Airport for the year 1999 are summarized in **Table C**. The study concluded that the airport has an annual economic impact of \$72.8 million and supports 814 jobs in the community.

TABLE C
Total Economic Benefits
Laughlin/Bullhead International Airport

	Revenues (millions \$)	Earnings (millions \$)	Employees
Direct Benefits	\$46.07	\$11.40	647
Induced Benefits	26.77	3.96	167
Total Benefits	\$72.83	\$15.36	814